

NONPOINT SOURCE TIMES

Volume 9, Issue 2

Spring 2000

New & Improved Watershed Surveys

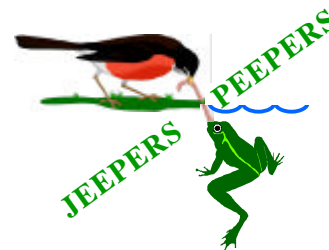
As the new kid on the block doing lake watershed surveys, I feel like I've already had my share of frustrations and failures. During the 1998 field season, I participated in three watershed surveys that included training volunteers, doing the technical follow-ups, compiling data and writing reports.

I view training volunteers for watershed surveys as an evolutionary process with its roots deeply embedded in a DEP guidance manual, *A Citizen's Guide to Lake Watershed Surveys*. Traditionally, volunteers trained by a consultant or technical advisor split their time between classroom and field sessions. Each session ranges between two and four hours in length, providing an excellent opportunity to increase awareness, evaluate runoff problems in the field and develop data recording skills. However many people learn by doing, and this method only provides limited amount of "doing" for the volunteers.

The classroom session covers different subject matters relating to lake ecology, water quality and property values, erosion, polluted runoff, the watershed concept and more. Usually visual aids such as slides and posters are used. Covering all these topics along with an overview of the survey forms usually takes about three hours including a 15-30 minute break. This is followed by a field session where the volunteers follow a technical advisor to three or four pre-scouted erosion sites.

This is how I received my training and I marveled at its organization and efficiency. The technical advisors did an excellent job, however I noticed that it can be a challenge for one technical person speaking to 20 plus people in the field to convey all the necessary

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Highland Lake Volunteers Make Difference

Highland Lake is a 623-acre lake located in eastern Cumberland County in Southern Maine. The lake's watershed covers approximately 8.5 square miles in Falmouth, Windham and Westbrook. It is highly valued by the area's seasonal and year-round residents for its seemingly pristine waters and sense of wilderness that it offers while still providing the conveniences of nearby Portland.

Highland Lake has experienced a gradual decline in water quality over the past several years. The average annual secchi disk reading over the past decade is about one meter less than it was in the previous decade, which signals an increase in algae

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information. Often volunteers are not full time lake residents, and the field session presents an opportunity to catch up with their neighbors whom they haven't seen since last summer. This leaves a core group around the technical advisor asking questions while side conversations develop on the fringe. These distractions are often a by-product of the site location, as when the group is evaluating an eroded shoulder of a town road. For safety reasons, the group is spread out in a linear fashion along the road with individuals as far as 20 feet from the technical advisor. I also noticed that a lengthy or intense classroom session often left the volunteers drained or inattentive for the field session.

John Rand, hydrogeologist and watershed technical advisor, planted the seed for the idea of restructuring training by noticing that not only was the technical follow-up time consuming, but the data submitted by the volunteers indicated that the training needed work. So last spring Wendy Garland, Cumberland County Soil & Water Conservation District (CCSWCD), and I decided to modify the volunteer training to overcome survey documentation problems that we had encountered from the previous summer.

We had the opportunity to put our ideas to the test when Wendy and I developed and presented the watershed survey training for Bauneg Beg Lake Association in York County. We were lucky enough to be assisted by Jeff Varricchione, DEP's new stream biologist, during the field session, giving us a third technical field advisor.

Our strategy was to limit the classroom session to an hour and 15 minutes and spend the majority of the training, five to six hours, in the field. One has to be well organized and a fast talker to get the necessary information out in an hour and a quarter, but it can be done.

We knew there were problems locating documented sites during the technical follow-up process. To prevent this and other problems from occurring, Wendy and I made modifications to the watershed survey field sheet.

Our modified field sheet is a hybrid of the sheet found in *A Citizen's Guide to Lake Watershed Surveys* and the follow-up sheet we were using at DEP. The new survey sheet is two sided which enables us to expand the site location section with the following: adding description and building color, landowner, map and lot, and directions/location. Landowner names are needed to cross reference map and lot numbers, which in turn may be necessary for accurate GIS mapping (the maps typically generated for watershed survey reports) or for notifying the landowner of runoff problems encountered.

The land use and site description sections of the survey sheet are modular so that additions or deletions within a section are simple. We also provide more spacing to make the survey sheet more readable. The back page has a recommendation section (a.k.a. the conservation measures, fixes or BMPs used to correct erosion problems) which in past years was not included in the volunteer's field survey sheet. A rating section for technical level, impact and cost is also included. Each sheet includes a section with an explanation of these ratings. A second sheet of paper is needed for surveyors to make the required sketch of each documented site. Each survey sheet may contain one and only one land use. For example, a driveway problem and shoreline erosion problem found on the same site would require two survey sheets. This is critical data used for determining the percentage of sites by specific land uses. However, even though a site may have multiple types of erosion problems it may only require one sketch sheet. The sketch sheet should depict problems and possible solutions to the problems/ fixes.

We divided volunteers into three groups of seven or eight people. Each group of volunteers had a technical advisor to instruct/facilitate the data collection in their assigned sector (s). The number of technical advisors available limits the number of groups. It would have been better if we had smaller groups and had an additional technical advisor so we could have broken out into 4 groups rather than 3, but who's complaining; we still surveyed almost half of the four and one half square mile watershed during the six-hour field session. That's half of the watershed that did not require technical follow-up!

Our goals were the following: identify erosion sites, sketch each site, photograph sites, locate sites on a map, identify recommendations/fixes (BMPs), provide a rating for cost, environmental impact and technical level to install BMPs and make landowner contact when possible. Working with volunteers to collect this information also built a cadre of watershed residents with technical experience.

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NPS Control Projects - Request For Proposals For Federal Fiscal Year 2001

Proposal Submission Deadline April 25, 2000
(Note unlike previous years - this years proposals
MUST be in the hands of the Division of Purchases
no later than 2:00 pm on Tuesday, April 25th.)

For more information contact
Norm Marcotte at 287-7727.



Watchic Lake Beach Restoration Project

A unique partnership of landowners, businesses, and state agencies came together on September 28-29 for a very successful beach restoration project on Watchic Lake. Over 50 volunteers from Utilities, Inc., coordinated by representatives from the Cumberland County Soil and Water Conservation District, the Standish Kiwanis, the Watchic Lake Association and the DEP worked on projects to reduce soil erosion and polluted runoff from entering the lake. This effort was a model for the community to illustrate that many hands make light work and that a group of determined people can do a lot to prevent pollution from entering the lake.

A 1998 watershed survey conducted by Watchic Lake Association volunteers, CCSWCD and DEP staff identified Kiwanis Beach as one of the 135 sites with soil erosion and uncontrolled runoff into Watchic Lake. To address these problems the Watchic Lake Association has begun an outreach program to educate local watershed residents about low cost, easy fixes to stop erosion and keep the dirt out of the water. This project was designed to be a visible example of how simple conservation practices can protect the lake.

Dana Twombly, president of Utilities, Inc., saw the Kiwanis Beach restoration as an excellent opportunity for the company's annual community service project. Twombly challenges other independent telephone companies to conduct their own community service projects. The beach has community significance because of its many activities and users. Twombly liked the project because the company's efforts could have a direct impact on the lake's water quality and that's good for the region's economy. Working together on the project gave Utilities Inc. employees who might not have the opportunity otherwise interact a chance to get to know each other better, and provided a great team-building experience.

The major focus was to properly managing stormwater in an area that receives a lot of seasonal users. We had to redirect and limit foot traffic, fix existing erosion problems and manage the flow of water. The volunteers completed a number of beach restoration projects, such as constructing/replacing defunct upland retaining walls near the shore to prevent erosion. They also constructed berms and walls to divert runoff from buildings, installed a French drain system, and re-routed foot traffic to the snack bar by terracing an eroding bank and installing steps. Other maintenance activities included replacing decking and wooden stairs to make them safer for users, painting picnic tables, and repainting the buildings green to make them less intrusive and blend more with the environment.

The project succeeded in bringing diverse groups together, and making a visible difference in the run-off from the area. "The level of community participation in the Kiwanis Beach project provides an excellent model for future protection efforts within the Watchic Lake watershed and other watersheds around the state. Everyone -landowners, businesses and municipalities-

"Twombly challenges other independent telephone companies to conduct their own community service projects."

Fertilizer Can Cause Problems for Frogs

CORVALLIS, Ore. (AP) - Fertilizer levels the EPA says are safe for human drinking water can kill some species of frogs and toads, according to a new study. Oregon State University researchers found some tadpoles and young frogs raised in water with low levels of

nitrites typical of fertilizer runoff ate less, developed physical abnormalities, suffered paralysis and eventually died. In control tanks with normal water, none died. In addition, the fertilizer runoff may be encouraging the growth of algae that feeds tiny parasitic flatworms called trematodes, blamed for causing deformities in frogs around the United States. Scientists internationally have reported a sharp decline in the numbers of frogs, toads and salamanders in many locations. See

<http://www.infobeat.com/>

Rulemaking

See rulemaking web page for updates throughout the session:

<http://janus.state.me.us/dep/blwq/rule.htm>



Shoreland Zoning Training

March 7 - Portland

March 9 - Auburn

March 14 - Bangor

March 15 - Presque Isle

For more information and locations call
Rich Baker at 287-7730.

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Working in small groups allowed every volunteer the opportunity to collect data and interact with watershed residents. This type of training provided many "teaching moments" at a variety of sites. The technical advisor surveyed the first three to five sites while explaining the process. During the rest of the field session, the volunteers collected the data, made the sketches and preached the good word of watershed management to lakeshore residents. The technical advisor was there to answer questions and watch the group's confidence grow.

The technical follow-up to the remaining half of the watershed, approximately 70 sites, required only three and a half days (working in teams of two). I found the data well organized and highly accurate as well as the recommendations. The volunteers used disposable cameras for the photographs. Each photograph included the sector and site number written with magic marker on a blank sheet of paper held in place by a clipboard. This worked well and saved a lot of time in matching up the photo with its field survey sheet. Problems occurred when the clipboard was placed too far back in the photo and the writing was hard to read. The person taking the photograph must be able to read the sector and site number to make this identification method work.

We're not sure if the folks at Bauneg Beg were just an exceptional group with great mapping skills or if the investment of time in the field up front made the difference. We're looking forward to hearing from others who try this type of training.

An important part of the training process that is often overlooked is feedback. Wendy was kind enough to develop a training evaluation form that covered both classroom and field training sessions. Volunteers should complete the evaluation form at the end of the field session and submit it to the technical advisor.

Casco Bay Estuary Project to Create Educational Site in Portland

The Casco Bay Estuary Project with the cooperation and assistance of the City of Portland Parks and Recreation Department, Maine DEP, Maine SPO, and other partners, is developing an educational demonstration site along Back Cove in Portland. This project addresses one of the action items outlined in the Casco Bay Plan, a document developed by the Casco Bay Estuary Project.

The site will feature a vegetated buffer strip with an interpretive sign informing people how vegetation reduces stormwater runoff. Back Cove was selected as a demonstration site due to its high public visibility. Thousands use the trails around Back Cove to walk, jog and bike. The buffer strip site is also located adjacent to the Back Cove soccer fields where hundreds of students and spectators visit each year.

The plants that will be used in the buffer strip will be native to Maine's coastal region. The selection is being made in consultation with biologists, personnel from local nurseries, landscape architects, the city and CBEP staff, including a Muskie School graduate student.

Two signs are planned for the project area. One will highlight the benefits of a vegetated buffer strip. The other will provide a description of a watershed, focus on other best management practices, and how we can all play a role in preserving our environment.

Richard Taylor, working with the CEEP as the coordinator for the project and a Muskie School graduate student, sums up the purpose of the project well; "As people walk by the site, read the signs and view the demonstration site, I hope that they too will understand the importance of buffer strips, the benefits they provide our water quality and how simple solutions can be both cost effective and a benefit to the environment.





Record Sales Phosphorus Free Fertilizer

Isn't it time for you to join the movement to help save your lake by switching from your regular lawn and garden fertilizer to one of the many phosphorus-free brands? Last year the Maine Department of Environmental Protection (DEP) initiated a campaign to promote consumer use of phosphorus-free fertilizer on established lawns and gardens. The 1999 campaign was very successful with a 17 fold increase in retail sales:

Retail sales of phosphorus-free fertilizer in Maine: 1998 - 3,200 lbs and in 1999 - 56,445 lbs.

The 1999 campaign reached the public in many ways:

- ✚ "Tip Sheets" giving background information on phosphorus pollution and explaining why the consumer should use phosphorus-free fertilizer. 12,250 "Tip Sheets" were distributed to retail locations, at flower shows, lake association meetings, and as requested by the public.
- ✚ Color labels for bags of phosphorus-free fertilizer. 5340 labels were distributed to manufacturers in 1999. (See examples below)
- ✚ New web pages to educate the public in more depth than was possible on the "Tip Sheet". Phosphorus-free fertilizer button is located on lakes page: <http://www.state.me.us/dep/blwq/lake.htm>
- ✚ Newspaper advertisements in Home and Garden or Earth Day special sections of the major daily newspapers in April and smaller weekly papers in May and early June
- ✚ Articles in newspapers, trade journals, and lake association newsletters
- ✚ Speaking engagements at landscaping conferences and lake association meetings
- ✚ Exhibits at flower shows, landscape tradeshow

Plans for 2000 should increase phosphorus-free sales in the retail and professional fertilizer applicator markets with the continuation of 1999 activities and these new approaches in collaboration with Maine Department of Agriculture, Bureau of Pesticide Control:

- ✓ Mailing to over 700 retail locations and fertilizer applicators (Nov. 1999)
- ✓ Nonpoint source pollution joint advertising campaign for 2000, targeting "weed and feed" and phosphorus in fertilizer
- ✓ New "live" exhibit booth for flower shows
- ✓ New lawn care brochure including phosphorus-free fertilizer
- ✓ Presentations to golf course superintendents and lawn care professionals

It is time to take action to protect the lakes in Maine! If you want to distribute "Tip Sheets" or you just want more information, call Christine Smith or email christine.p.smith@state.me.us

Look For These Labels When You Buy Fertilizer This Spring

Phosphorus-Free Fertilizer Information

- ✚ Phosphorus-free fertilizer will not cause green scum in lakes.
- ✚ Phosphorus in fertilizer can wash off lawns, polluting lakes.
- ✚ 50% of Maine drains to a lake.
- ✚ Most soils have enough phosphorus to maintain a lawn. (A small amount of phosphorus may be needed for new lawns.)
- ✚ Test your soil before you fertilize.





Tid Bits (Brief Updates)

First Maine Lake TMDL EPA Approval!

David VanWie, Land and Water Quality Bureau Director for ME-DEP, recently received notification from US-EPA (Linda Murphy, Director of Office of Ecosystem Protection) that the Maine Cobbossee Lake Total Maximum Daily Load (TMDL) for total phosphorus was approved (dated 1-26-00). The draft TMDL was originally submitted in 1995 and was prepared by the Cobbossee Watershed District in collaboration with ME-DEP with EPA-funding. Following EPA review (April 1999), an updated addendum (final TMDL) was submitted by ME-DEP in October 1999. Based on nutrient budget modeling and estimated watershed land use phosphorus export coefficients, target goals to meet water quality standards (i.e., absence of nuisance summertime algal blooms) were set at 15 ppm total phosphorus with allowable maximum annual loadings of 5,904 kg/P/year. EPA was pleased with the quality of this first Maine lakes TMDL, stating that "the District and ME-DEP staff have done an excellent job of preparing a comprehensive and informative TMDL report...and we look forward to cooperating with ME-DEP in exercising our shared responsibility in implementing the (TMDL) requirements under Section 303(d) of the Clean Water Act." The next lake-specific TMDLs to be completed in 2000 are Madawaska Lake, Sebasticook Lake, and China Lake. Contact: Dave Halliwell, Lakes TMDL project biologist, at 287-7649 for more information.

Jeepers Peepers - Have You Heard Them Yet?

Jeepers Peepers is a project for students and teachers across Maine. The Maine DEP has put together a spring celebration and project to welcome Earth Day 2000. The project involves monitoring our favorite sounds and sights of spring and exploring what future springs may look like here in Maine. Observations will be tracked on DEP's web site. Three winners in an associated essay contest will have their articles appear in DEP's newspaper column, "In Our Back Yard". More information: <http://janus.state.me.us/dep//jeeperspeepers>.

Legislative Reports

January 19th, Don Witherill presented two department reports to the Legislature's Natural Resources Committee. The reports were on "The Use of Riparian Buffers to Reduce Nonpoint Source Pollution from Development" and "Identifying and Facilitating the Upgrade or Replacement of Substandard Subsurface Disposal Systems" (a joint report submitted with

DHS). The reports, which are posted on DEP's web site, include proposed statutory changes. These include extending jurisdiction under the Natural Resources Protection Act to include cutting vegetation adjacent to first order streams, mandatory disclosure of information concerning land use laws and septic systems by sellers to prospective buyers prior to sale of property, and a requirement that DEP and DHS develop a plan to require inspection of septic systems greater than 20 years old prior to real estate transfer. The committee voted to print two bills, one on buffers and one on septic systems, containing the proposed changes. The bills are expected to be heard later in this session. For more information contact Don Witherill at 297-7725.

OBD Grants -- Arrowsic and Scarborough.

The Towns of Arrowsic and Scarborough both received new grants in December 1999 from the Overboard Discharge Grant Program. The Scarborough grant for \$20,000 will assist in the removal of the last licensed overboard discharge in the Nonesuch River and thus possibly open a large area of the Scarborough marsh to shellfishing. The Arrowsic \$100,000 grant is intended to remove 3 discharges from the Back River, 4 discharges from the Preble Point area of the Sasanoa River, and 4 other discharges in the Kennebec River that affect downstream shellfish areas. Design for all projects will start immediately and construction completion is expected in 2000. For more information contact Dave Achorn 287-7766.

Acadia National Park Natural Resource Report

An Acadia National Park Natural Resource Report 98-01 titled Benthic Stream Macroinvertebrate Monitoring is the result of the recent collaboration between the MDEP Biomonitoring Unit and the Acadia National Park Resource Management staff. Duck Brook, Stanley Brook, Canon Brook, and Hunter's Brook were selected as monitoring stations in the park. The four streams sampled met Maine's Class A aquatic life standards. In addition, a total of 83 species were collected for Acadia National Park's reference collection. New species collected in future sampling will be added to the collection, which is housed in the William Otis Sawtelle Collections and Research Center at Acadia National Park headquarters. The decision to use MDEP protocols and expertise provided some valuable benefits to the park's program. Collaborating with the MDEP biological monitoring program allows Acadia to utilize a credible existing program that provides new baseline data on park aquatic ecosystems, and mutually benefits both agencies in cost sharing, and in data sharing and analysis. The collaboration also builds on existing cooperative activities between the two agencies involving air quality monitoring and lake monitoring. Additional monitoring is planned for next year. For more information contact Leon Tsomides at

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and sediment in the lake. In addition, the average dissolved oxygen in the lake's bottom layer during September (when it is expected to be the lowest) has dropped to levels that threaten the lake's trout fishery.



The Highland Lake Conservation Project is one of the first implementations of a watershed management plan in the State of Maine. It aims to improve or maintain stable water quality in Highland Lake through education, technology transfer and on-the-ground fixes. The Priority Watershed Protection Grants Program of the State of Maine, which provides financial assistance for conducting locally supported watershed management projects, funds the project. The lead agency is the Cumberland County Soil and Watershed Conservation District and primary partners include the Highland Lake Association, private road associations, MDEP, the Towns of Falmouth and Windham, and the City of Westbrook.

The project began in June of 1999 and has had tremendous success implementing the workplan to date. Nine technical assistance visits were completed as well as two road workshops and one buffer workshop. All three workshops were well attended, which was due, in part, to the outreach network that was established. This outreach network, which is composed of one contact for each road in the watershed, is the distribution mechanism for all project-related material. This serves two purposes: it cuts down on mailing costs and it provides the opportunity for one-on-one information transfer to occur.

On-the-ground fixes are a major focus of this project. Five private roads were selected for the first round of on-the-ground



construction, which began in December of 1999. All most all of the work has been completed; some fine-tuning will occur this coming spring. In addition, the Maine Department of Conservation approved funding to install conservation measures at the identified, high priority state boat launch site off Lowell Farm

Road in Falmouth.

The spirit of community is evident in the accomplishments to date. In particular, Upper Beach Road in Windham, brought a neighborhood together to solve a number of drainage issues on their road. Due to the constraints of the construction budget and the project's mission to equitably distribute funds to areas of need all around the lake, Upper Beach Road was faced with only being able to fix half of the problems on their road. Thankfully, the residents took the initiative to tap into their resources – themselves!

Seventeen volunteers donated approximately 450 hours of their time to attend planning meetings, pick up supplies and, ultimately, do the work. They knocked down a berm on one side of the road, replaced a driveway culvert, increased the capacity of a ditch, and installed a turnout and two drainage ditches to carry water from the road to vegetated buffer areas. In addition, the seventeen volunteers who generously donated their time to help plan as well as implement erosion control measures for their road, also received a wonderful lesson on the link between erosion and lake water quality and what

individual landowners can do to abate existing problems.



The second accomplishment of note was the installation of a

buffer and two settling areas with level-lip spreaders in a right of way (R-O-W) on Sunset Road in Falmouth. The R-O-W had historically been the recipient of a lot of sediment-laden stormwater runoff from the surrounding properties and the private, gravel road. The recommendations from a technical assistance visit resulted in the road association volunteering their R-O-W for a buffer workshop. The road association footed the bill for the materials and the Highland Lake Conservation Project supplied the volunteers.

People of all ages came out to help plant over forty buffer plants of all varieties. Then AmeriCorps volunteers and Westbrook High School students along with their teacher, Cindy Altomari, installed two settling areas with level-lip spreaders. Overall, thirteen high school students, two fourth graders, four AmeriCorps volunteers and additional ten residents donated over one hundred volunteer hours to complete the R-O-W.

We often here about the cumulative impact of all the small and large problems that causes lake water quality to decline,



Nonpoint Source Training and Resource Center Winter/Spring 2000 Training Schedule

Stormwater:

Stormwater Practices Design for Non-Engineering Land Use Professionals

Portland, March 1, 2000, Holiday Inn West,
Riverside Street

Bangor, March 8, 2000, Ramada Inn, Odlin
Road

Conference: Lessons Learned in Stormwater Management and Permitting

Augusta, March 17, 1999, Augusta Civic Center,
Community Drive

Stormwater Practices Design For Engineers (CCSWCD)

Scarborough, MDOT Div 6 Office, Pleasant Hill
Road -March 7, 14, 21, 28, April 4, 11,
2000

Training For Architects On The Stormwater Law and Regulations

Augusta, May 3, 2000, The Senator Inn

Erosion Control

Basic Erosion and Sediment Control Practices for Contractors

Houlton, March 31, 2000, Shiretown Motor Inn
Rockland, April 5, 2000, The Tradewinds Motor
Inn

Advanced Erosion and Sediment Control For Contractors

Bangor, April 11, 2000, Ramada Inn

Training For Certification in Erosion and Sediment Control Practices for Experienced Construction Company Personnel

Pittsfield, March 2, 2000, Cianbro Corporation

Septic System Installers Training (SWCDs)

Basic Septic System Installation

March 2, 2000, Alfred Parish Church

March 15, 2000, Skowhegan Community Center

Advanced Septic System Installation

Bangor, March 9, 2000, Eastern Maine
Technical College

Training on Buffer Strip Establishment

Portland, March 23, 2000, Holiday Inn West,
Riverside Street

Augusta, March 29, 2000, The Senator Inn

Jeepers Peepers

The Maine DEP has put together a spring celebration to welcome Earth Day 2000. The project involves monitoring our favorite sounds and sights of spring and exploring what future springs may look like here in Maine.

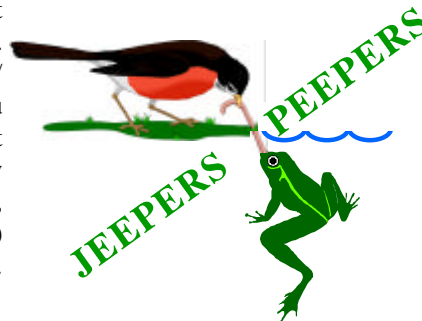
Most people grow up with a sense of the "rite" of spring -- the changing of winter into spring. Yet we sometimes take for granted the "routine" of spring. The robins come, the frogs sing, and the trees bud out. But does this transformation happen at the same time all over the State of Maine? And will there always be spring peepers and wood frogs singing? Will there always be flocks of robins returning in the spring to hop across our lawns?

The first part of the project involves fifth grade students and teachers around the state. As you and your class learn about robins, wood frogs and spring peepers, you will track when they emerge or return to Maine as heralds of spring and send the date your class observes these creatures to the DEP. You and your students will be able to see what other classes are finding around the state by checking out DEP's web site where the progress of spring will be mapped weekly. Teachers should register their class(es) in advance of the start of the project.

The second part of this project involves exploring the life history and habitats of these animals through curriculum activities gathered from Project WET, Project Wild Aquatic and Community Sustainability. These activities can be found on DEP's web site. The activities have been aligned to Maine's Learning Results and include assessment tools.

The third part of this project is an essay contest open to students in grades 4 through 12. Three winners will have their articles used during the month of April in DEP's newspaper column, "In Your Back Yard" which appears in papers throughout the state.

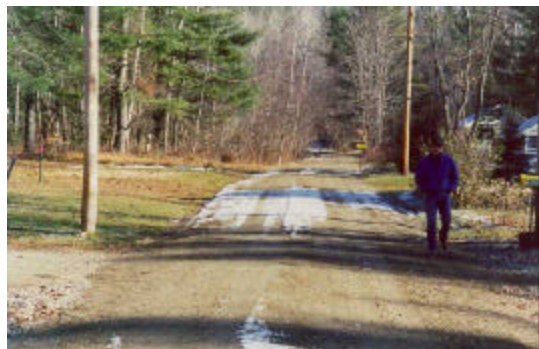
For more information about the project jump on to: www.state.me.us/dep/jeeperspeepers. You may also contact DEP's Earth Day 2000 coordinators, Barb Welch at (207) 287-7682 or barb.welch@state.me.us



Roxbury Pond

Roxbury Pond (also known as Ellis Pond or Silver Lake) is a lovely lake, nestled within the hills north of Rumford, Maine. The pond itself is 917 acres and has a watershed of 26.4 square miles (16,896 acres). The lake is a valuable resource for the local communities and the State of Maine. It is fished both summer and winter. It has a public boat ramp and extensive beach area as well as numerous year-round and seasonal homes. In addition, the watershed has been and currently is logged and used recreationally for hunting, ATV and snowmobile use and hiking.

Roxbury Pond is on the State's Non Point Source (NPS) Priority Watersheds List. The water quality data



New surface material was brought in and the road was crowned allowing water to flow off the road along its length.



Poor shaping, surface materials and lack of ditches & culverts caused water to flow along the roadway, creating

collected over the last 12 years suggests that the lake is stressed. Water clarity is below the Maine average, total phosphorus is moderate to high and the pond experiences late summer dissolved oxygen depletion. The NPS water survey conducted in 1994 identified over 350 erosion or runoff problem sites throughout the watershed.

The purpose of the Roxbury Pond Erosion Control Demonstration Project is to protect, stabilize and improve the water quality of the pond by reducing sediment and phosphorus

loading from the watershed. This has been done through demonstration of erosion control practices which included the installation of Best Management Practices, workshops to educate the public and contractors about NPS pollution and how to control it and technical assistance to land owners who were interested in controlling erosion and runoff from their property.

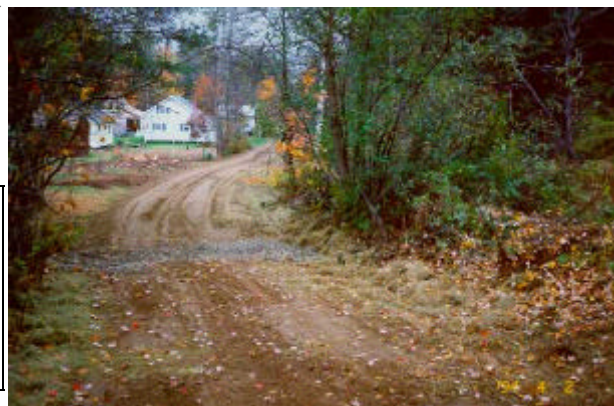


Article taken from Project Report by

New ditches were installed & stabilized.

Cynthia Kuhns.

Shoulders & ditches were stabilized, cross culverts or stable broad-based dips were put in place. Existing turnouts were cleaned out.



A Kick in the Grass

20 million acres of U.S. land are covered by lawn.

1 hour spent mowing lawn with a gas-powered mower produces as many emissions as 50 hours spent driving an average car.

5 percent of U.S. air pollution in summer months is emitted by gas-powered lawn equipment.

27,000 gallons of water are needed each week to maintain an acre of lawn.

35 percent of all household water is used to tend yards.

32 million pounds of pesticides were used on U.S. lawns in 1994.

by Josh Sevin



DEP Publishes 15-Year Biological Monitoring Report

The Report provides a summary of the results of biological monitoring of benthic macroinvertebrates in rivers and streams, between 1983 and 1998, in the State of Maine, by the Maine Department of Environmental Protection (MDEP). Part I Chapter 1 is a description of various developmental and implementation aspects of the State's biocriteria program, including development of analytical methods and resulting numeric biocriteria, as well as regulatory and reporting applications of the information. Part I Chapter 2 is a synopsis of biomonitoring activities for other waterbody types (e.g., wetlands, lakes and estuaries) and for specific applications (e.g., assessment of non-point source impacts).

Part II of the Report includes nine chapters, organized by major river basin(s), providing an overview of historical findings, biomonitoring activities and results, current status and planned future activities. Each Basin Chapter has an associated Basin Map and Basin Table that present station location information and biocriteria results. Also provided are eleven case studies that elaborate upon biological and water quality findings and management activities for specific sampling locations, over time.

For most of the State's river basins, biological monitoring has demonstrated significant site-specific improvements in the condition of aquatic life since the early 1980's, as the result of improved point source treatment technologies and management. However, in recent years it has become apparent that significant impairment of aquatic life is occurring as a result of non-point source impacts, particularly in urban streams. Future priorities for the Biological Monitoring Program include an expanded emphasis on the assessment of non-point source biological impacts, development of periphyton indicators of nutrient, aesthetic and biological impacts, and expanded reliance on spatial data integration and analysis.



Storm Water Phase II EPA Construction Program

Sediment runoff rates from construction sites are typically 10 to 20 times greater than those from agricultural lands, and 1,000 to 2,000 times greater than those of forest lands. During a short period of time, construction activity can contribute more sediment to streams than can be deposited over several decades, causing physical and biological harm to our Nation's water.

In 1990, EPA promulgated rules establishing Phase I of the NPDES storm water program. Phase I address, among other discharges, discharges from large construction activities disturbing 5 acres or more of land. Phase II of the NPDES storm water program proposes to cover additional, smaller, construction activities. Phase II became final in December 8, 1999 with permits issued within 3 years and 90 days of publication of the final rule.

Who is covered under Phase II?

Sites between One and Five Acres.

The Storm Water Phase II Proposed Rule automatically covers, under the NPDES storm water permitting program, all owners or operators of construction site activities that result in a land disturbance of equal to or greater than 1 but less than 5 acres.

Sites Less Than One Acre

Site activities disturbing less than 1 acre are also included in the NPDES storm water program if they are part of a larger common plan of development or sale with a planned disturbance of equal to or greater than 1 acre but less than 5 acres, or if they are designated by NPDES permitting authority. As proposed, the NPDES permitting authority may designate construction activity disturbing less than 1 acre if a project is deemed to have the potential for adverse impacts on water quality or for significant contribution of pollutants based on a Total Maximum Daily Load (TMDL), watershed or other local assessment.

For more information see www.epa.gov/owm/sw/phase2 or call Thelma Hamilton, EAP New England, 617/918-1615 - hamilton.thelma@epa.gov



Calendar of Events

March 7, 9, 14 & 15, 2000. Shoreland Zone Ordinance Advanced Workshop sponsored by SPO. This is a 1-day workshop to be held at a variety of locations around the state. Contact the CEO Training & Certification Program at 287-3261.

March 13-17, 2000. New England Association Of Biologist (NEAB) Annual Meeting. Jackson New Hampshire. For more information contact Stephanie Bowser or Amy Smagula (603) 271-2963.

March 31 & April 1, 2000. Vernal Pools of the Northeast. Sponsored by the University of Rhode Island, Kingston. For more information contact (401) 874-2170 or meeturi@etal.uri.edu.

April 13, 2000. Maine Water Conference 2000. Augusta Civic Center. For more information contact Water Research Institute at the University of Maine (207) 581-3244.

April 26-29th, 2000. 6th National Volunteer Monitoring Conference. Moving Into the Mainstream. Austin Texas. For more information contact Mary Crowe, at Tetra Tech (703) 385-6000 or crowematetratech-ffx.com

May 10, 2000. Southern Maine Children's Water Festival. To find out more or to volunteer please call Marianne Dubois 287-2115.

June 1-3, 2000. NEC-NALMS Our New England Waters Conference. Hosted by Connecticut Federation of Lakes. For additional information see www.ce.uconn.edu/ct-lakes.html or contact George Knoecklein at (860) 456-3179.

March 23-25, 2000. Agroforestry in the Northeast. To be held at the Radisson Eastland Hotel in Portland Maine. For more information contact Threshold of Maine RC & D at 207/657-3131 or rdc@cybertours.com

Resources Available

Save Our Streams. The Izaak Walton League of America has published a catalog listing materials to help organizations with "Save Our Streams" Contact them at (800) BUG-IWLA

Web Sites of Interest

www.state.me.us/dep/jeeperspeepers DEP's Earth Day project.

USGS water page, a good link for information on water. <http://ga.water.usgs.gov/edu/>

Environmental Health Center has some interesting information. What is interesting are there "Enviro minutes", scripts of PSA's that they have done on environmental topics. <http://skinnyuppy.webfirst.com/nsc/ehc/water.htm>

This newsletter is prepared especially for those involved in non-point source pollution issues. It is funded through an EPA 319 Clean Water Act Grant. If you have any announcements, comments or items for the Nonpoint Source Times, or if you would like to be added to the mailing list, please call or write:

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Clean water starts with you!



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